CLASS 213, RAILWAY DRAFT APPLIANCES

SECTION I - CLASS DEFINITION

This class contains patents involving means for connecting together the various elements of a railway train. It also contains patents involving means for resiliently absorbing the shocks and blows incident to the movement of the train and to give cushioning effect to starting and stopping thereof. Devices relating to this purpose may be formed as a part of the coupling devices or may be separate devices secured to or built into the car construction, either to cooperate with the coupling device or to engage and cooperate with similar structure on another car.

SECTION II - LINES WITH OTHER CLASSES AND WITHIN THIS CLASS

(1) Note. Elements of a car, which are also elements of the subject matter of this class, but are modified in structure for use in combination with other elements of the car, the problem involved being more that of car construction than relating to the subject matter of this class, will be found in Class 105, Railway Rolling Stock. Copies of the patents in Class 105 which might be of value as references in this class have been placed in the class as cross references.

(2) Note. Patents claiming combinations between car couplers and devices for other purposes incident to the use and operation of the car will be found in the classes in which such other devices are classified. The combination of a car coupler and means for coupling train-pipe service for air or steam forms an exception to the rule above noted and will be found in this Class 213, subclass 76. However, where such train line is secured to a coupler or drawbar and its operation is the same as though hung to any other part of the car the combination will be found in Class 285, Pipe Joints or Couplings, subclasses 24+ and 62+. The combination of a car coupler and connecting means for electric circuits forms another exception to the above rule and will be found in this Class 213, subclasses 1.3+. Where the combination is between a coupler and a brake see Class 188, Brakes. Where the combination is between a car coupler and means for unloading or loading a car, see Class 414, Material or Article Handling.

(3) Note. Devices adapted to attach draft animals to cars will be found in Class 278, Land Vehicles: Animal Draft Appliances.

(4) Note. For coupling and draft devices for trains of vehicles other than track vehicles see Class 180, Motor Vehicles, subclasses 14.1+, and Class 280, Land Vehicles, subclasses 400+.

SUBCLASSES

1 Devices not falling specifically within the definitions of the following subclasses.

1.3 This subclass is indented under the class definition. Combinations of railway draft couplers with electrical connecting means.

SEE OR SEARCH CLASS:
- 280, Land Vehicles, subclass 422 for electric service connections in land vehicle trains.
- 439, Electrical Connectors, for electric connectors, per se, especially subclasses 34+ for combinations of electric connectors with vehicle structures other than draft couplers.

1.6 This subclass is indented under subclass 1.3. Combinations having an electric switch or other means for opening or controlling a circuit through the connector contacts without separating said contacts.

(1) Note. The switch or other circuit opening or control means is usually, but not necessarily, located at a point remote from the car coupler and electric connector, and may be interlocked therewith so as to require operation of the switch before the connector contacts or car-couplers can be separated.

SEE OR SEARCH CLASS:

307, Electrical Transmission or Interconnection Systems, for miscellaneous electrical systems in general especially subclasses 9.1+ for vehicle mounted systems.

2 This subclass is indented under the class definition. Draft devices for connecting together a locomotive and tender, the forward end of the locomotive or the rear end of a tender to the other cars of a train.

3 This subclass is indented under subclass 2. Devices where the connecting means is between the locomotive and tender.

4 This subclass is indented under subclass 2. Draft device which is capable of being moved to an inoperative or out-of-the-way position when not in use.

5 This subclass is indented under subclass 4. Devices having in combination therewith means for raising the draft device in a vertical direction.

6 This subclass is indented under subclass 2. Devices made in the form of a pocket secured to an end portion (usually the rear end of a tender) for holding a coupling device.

7 This subclass is indented under the class definition. Patents providing means for cushioning the movement of the draft device.

SEE OR SEARCH CLASS:

267, Spring Devices, subclass 120 for a spring device of the expansible-chamber fluid spring type, for cushioning a rail vehicle body on its undercarriage.

8 This subclass is indented under subclass 7. The draft device is continuous from one end of the car to the other.

9 This subclass is indented under subclass 7. Means wherein a cushioned draft device is operatively connected to a car end buffer and functions therewith for any purpose.

(1) Note. See search note below for definition of a car end buffer.

SEE OR SEARCH THIS CLASS, SUBCLASS:

220, for definition of a car end buffer.

10 This subclass is indented under subclass 7. Devices where the car is of the type having a single center sill.

11 This subclass is indented under subclass 7. Devices where the cushioning means extends into or through the bolster of the car and the bolster is modified to cooperate therewith.

12 Wherein the draft device is movable angularly in any direction.

(1) Note. Patents showing looseness of parts which permits angular movement do not fall in this subclass unless the structure is specially designed to take advantage of such looseness to give angular movement.

13 This subclass is indented under subclass 12. Means wherein the movement of the draft device is in a vertical direction.

14 Structure under subclass wherein vertical movement of the draft device is combined with a horizontal movement.

15 This subclass is indented under subclass 12. Structure wherein the movement of the draft device is controlled by the movement of the car truck.

16 This subclass is indented under subclass 12. Devices wherein means are provided to move by hand the draft device to bring the coupling part to a position to facilitate coupling.

17 This subclass is indented under subclass 16. Devices wherein the hand- controlling means also operates as means for unlocking or uncoupling the coupler.

18 This subclass is indented under subclass 12. Means wherein the center of radial movement of the draft device is on a pivot connecting the coupler head to the drawbar.

19 This subclass is indented under subclass 18. Devices wherein self-acting means are employed to return the head and drawbar into alignment.

20 This subclass is indented under subclass 18. Devices wherein self-acting means are employed to move the draft devices into alignment with the center line of the car.

21 This subclass is indented under subclass 20. Structure wherein the centering means for the draft device is carried by or formed as part of the drawbar carrier.

22 This subclass is indented under subclass 7. Devices using the combined action of springs and friction as means for cushioning movement of the draft devices.

SEE OR SEARCH CLASS:

267, Spring Devices, subclasses 196+ for spring and friction retarder devices specifically disclosed as having utility other than as a railway draft appliance and in which no claim sets forth a spring device limited to use as railway draft appliance.

23 This subclass is indented under subclass 22. Devices wherein the cushioning action is against the action of a spring preliminary to the combined action of spring and friction.

24 This subclass is indented under subclass 23. Cushioning devices is of a type comprising a casing with friction shoes engaging the casing and wedges to force the shoes into engagement therewith.

25 This subclass is indented under subclass 22. Means wherein spring action only cushions a draft movement of the device, with combined spring and friction on buffing movement.

26 This subclass is indented under subclass 22. Combined spring and friction devices in which compression of the springs is greater or less than the movement of the draft device.

27 This subclass is indented under subclass 26. Devices wherein the friction is generated by rotative movement of friction elements.

28 This subclass is indented under subclass 22. Devices wherein the friction is generated by the rotative movement of friction elements.

29 This subclass is indented under subclass 22. Devices wherein interengaging springs generate the frictional resistance by movement upon each other.

30 This subclass is indented under subclass 29. Devices wherein the springs are plate springs.

31 This subclass is indented under subclass 22. Devices wherein one of the friction elements of the device is a casing.

32 This subclass is indented under subclass 31. Devices wherein the friction is generated by wedging of shoes outwardly against the inner walls of the casing.

33 This subclass is indented under subclass 32. Devices wherein there are also provided interleaved friction plates, some being movable relative to others.

34 This subclass is indented under subclass 33. Devices wherein the wedges are formed of a plurality of parts.

35 This subclass is indented under subclass 22. Devices wherein one of the friction elements is in the form of a post centrally disposed.

36 This subclass is indented under subclass 35. Devices wherein the wedges are employed to force shoes into engagement with the friction post.

37 This subclass is indented under subclass 22. Devices wherein the friction is generated by movement of friction devices transversely thereof.

38 This subclass is indented under subclass 37. Devices wherein spring resistance is disposed transversely thereof.

39 This subclass is indented under subclass 38. Devices wherein the movement of the friction element is in an inward direction.

40 This subclass is indented under subclass 7. The cushioning device for the draft is in the form of a spring.

SEE OR SEARCH CLASS:
267, Spring Devices, for spring devices specifically disclosed as having utility other than as a railway draft appliance and in which no claim sets forth a spring device limited to use as a railway draft appliance.

41 This subclass is indented under subclass 40. Devices wherein the spring resistance is increased to give greater resistance to movement of the draft device per unit of travel according to the amount of travel of the draft device or to provide a greater resistance to impact shock than to pulling strains.

42 This subclass is indented under subclass 40. Devices wherein the springs are tension springs.

43 Wherein devices of the class indicated the spring is the compression of a pneumatic fluid or dashpot action of a liquid fluid.

44 Wherein devices of the class indicated a plurality of springs are employed in the device.

45 Wherein devices of the class indicated the springs are arranged in tandem relation.

46 Wherein devices of the class indicated one spring or set of springs are used for draft strains and another spring or set of springs are used for buffing shocks, the springs or sets of springs having tandem relation.

47 Wherein a tandem-spring device a U-shaped member surrounds the springs and is engaged to the drawbar by the legs of the member.

48 Wherein devices of the class indicated overlapping plungers adapted for movement in opposite directions are employed as means for compressing the springs.

49 Wherein devices of the class indicated springs are arranged so that lines through their axes of compression are parallel to each other.

(1) Note. This does not include a plurality of springs where this line is common to all the springs.

50 That part of the car construction or separate means fixed thereto which cooperates with the draft devices.

50.5 This subclass is indented under subclass 50. Devices in which parts of the car construction or separate means attached thereto prevent unintentional displacement of the draft key which couples the draft means to the cushioning means.

SEE OR SEARCH THIS CLASS, SUBCLASS:
69, for draft key retainers in cushioned draft connections which do not include parts fixed to the car.

SEE OR SEARCH CLASS:
411, Expanded, Threaded, Driven, Headed, Tool-Deformed, or Locked-Threaded Fastener, subclass 351 for a draft key fastener, per se.

51 That part of the car through which the force of pull or buff on the draft devices is transferred to the car.

(1) Note. Only the construction of the draft sills which directly cooperates with the draft device will be found in this class.

SEE OR SEARCH CLASS:
105, Railway Rolling Stock, subclass 413 and indented subclasses.

52 Devices of the class indicated adapted for use with parallel-arranged type of draft gear.

53 Devices of the class indicated adapted for use with tandem-arranged type of draft gear.

54 Plates adapted to be secured to the faces of car sills to provide means whereby the force of buff or draft is transferred to the car through the sills.

55 Devices of the class indicated adapted for use with tandem-arranged type of draft gear.

56 Devices secured to the car in the form of a single means for acting as a stop for an individual follower element of a draft device.

57 Where the stops of the class indicated also form an element of the bolster of the car.

58 Means secured to the end of a car and adapted to receive and limit the inward movement of the draft device.

(1) Note. The coupler is provided with an upwardly-projecting part (called the coupler horn) which engages the striking block at the end of its inward movement.

59 Where the striking block is resiliently supported to cushion the inward movement of the coupler.

60 Where the striking block also acts as drawbar carrier.

61 Means for supporting the drawbar in a horizontal position.

62 That part of a draft device to which the coupler head and the cushioning element are secured.

63 Means secured to the rear end of the drawbar and adapted to lengthen it.

64 Means for connecting the rear end of the drawbar or drawbar extension to the cushion.

65 Wherein devices of the class indicated the cushion consists in part of a friction case and special means are employed to connect the drawbar to the casing.

(1) Note. Types of means for this purpose that are capable of use with other types of cushion will be found in other subclasses of this class.

66 Wherein devices of the class indicated the connecting means are in form of links.

67 Wherein devices of the class indicated the connecting means are U-shaped, surround the cushion, and are connected to the drawbar at the ends of the legs of the U.

68 Wherein devices of the class indicated the yoke is longitudinally divided into separate parts.

69 Devices of the class indicated where the novelty lies in the manner of connecting the drawbar to the yoke.

70 Wherein devices of the class indicated the yoke is provided with a hooded end.

71 Wherein devices of the class indicated the connection is such as to pivot the yoke to the drawbar.

72 Wherein devices of the class indicated the connection is such as to pivot the yoke to the drawbar.

73 Where the draft device extends continuously the length of the car and is not of such character that it falls in any subclass noted above.

74 Where the draft device is radially movable and is not of such character that it falls in any subclass noted above.

75 The element of a draft device by which cars are coupled together.

SEE OR SEARCH CLASS:

403, Joints and Connections, appropriate subclasses for connections between two members in general.

76 Couplings that are adapted for securing together cars and when coupled or during the coupling operation also coupling the train service pipe for air or steam.

(1) Note. Couplings to which are secured automatic devices for coupling air or steam pipes and in which the coupling thereof is independent of the coupling action of the car coupler will be found elsewhere. See the Search Class note below.

SEE OR SEARCH THIS CLASS, SUBCLASS:

1.3+, for couplings of the type provided for herein (subclass 76) when claimed in combination with electrical connecting means.

SEE OR SEARCH CLASS:

137, Fluid Handling, subclasses 347+ for valved couplings on railway car structure and subclasses 614+ for pipe couplings having plural serial valves.

251, Valves and Valve Actuation, subclasses 148+ for a valved pipe coupling.

285, Pipe Joints or Couplings, subclasses 24+ and 62+. See the (1) Note above.

439, Electrical Connectors, subclasses 191+ for combinations of electric connectors with fluid line conduits or couplings.

77 Coupling devices that are alike in all their elements and can be coupled to each other without use of any additional element or elements.

78 Those in which a link or bar is used as the coupling means.

79 Wherein devices of the class indicated a selection of a coupling element of either coupler is made to effect the coupling. The selection may be either manual or automatic.

80 Wherein devices of the class indicated a beveled link on one coupler is engaged and held by a swinging catch on the other coupler.

SEE OR SEARCH THIS CLASS, SUBCLASS:

91, and 176.

81 Wherein devices of the class indicated the beveled link is formed at one end like and arrowhead.

SEE OR SEARCH THIS CLASS, SUBCLASS:

92, and 177.

82 Wherein devices of the class indicated a link on one coupler engages a hook on the other coupler.

SEE OR SEARCH THIS CLASS, SUBCLASS:

93, 178, 179, and 180.

83 Where the link is in the form of a bail.

SEE OR SEARCH THIS CLASS, SUBCLASS:

94, and 181.

84 Wherein devices of the class indicated each coupler comprises a hook and link formed together, the link of either coupler adapted to engage the hook of the other.

SEE OR SEARCH THIS CLASS, SUBCLASS:

95,

85 Wherein devices of the class indicated a headed link is adapted to be engaged in a slot having fixed shoulders.

SEE OR SEARCH THIS CLASS, SUBCLASS:

96, 97, 182, 183, and 184.

86 Wherein devices of the class indicated an open link on one coupler is engaged and held by a pin passing through the opening.

SEE OR SEARCH THIS CLASS, SUBCLASS:

98, 188 and 189.

87 Where the pin is pivotally supported to be swung rearwardly by an entering link and to move by gravity or a spring to engaged in the opening in the link.

SEE OR SEARCH THIS CLASS, SUBCLASS:

99, and 190.

88 Wherein devices of the class indicated each coupler is provided with a hook and catch and when coupled the hooks on both couplers engage with the catches on the opposing coupling.

SEE OR SEARCH THIS CLASS, SUBCLASS:

79, and 175.

89 Where the hooks are pivoted.

SEE OR SEARCH THIS CLASS, SUBCLASS:

79, and 175.

90 Where the hooks are pivoted to swing in a horizontal plane.

SEE OR SEARCH THIS CLASS, SUBCLASS:
79,

91 Wherein devices of the class indicated a beveled link on each coupler engages a swinging catch on the other coupler.

SEE OR SEARCH THIS CLASS, SUBCLASS:
80, and 176.

92 Where the end of each link is fashioned like an arrowhead.

SEE OR SEARCH THIS CLASS, SUBCLASS:
81, and 177.

93 Where each coupler is provided with a hook and a link and the link on each coupler engages with the hook on the other coupler.

SEE OR SEARCH THIS CLASS, SUBCLASS:
82, 178, 179, and 180.

94 Wherein devices of the class indicated the link is in the form of a bail.

SEE OR SEARCH THIS CLASS, SUBCLASS:
83, and 181.

95 Wherein devices of the class indicated each coupler comprises a hook and link formed together and the link on each coupler engages with the hook on the other coupler.

SEE OR SEARCH THIS CLASS, SUBCLASS:
84,

96 Wherein devices of the class indicated a headed link on each coupler is adapted to be engaged in a slot having fixed shoulders.

SEE OR SEARCH THIS CLASS, SUBCLASS:
85, 182, 183, and 184.

97 Where a head on the link or the link itself is adapted for rotative movement to engage or disengage from the shouldered slot.

SEE OR SEARCH THIS CLASS, SUBCLASS:
184,

98 Where each coupler is provided with a pin and an open link and the pin on each coupler engages with the open link on the other coupler.

SEE OR SEARCH THIS CLASS, SUBCLASS:
86, 188 and 189.

99 Wherein devices of the class indicated the pin is a pivotally supported to be swung rearwardly by an entering link and to be moved by gravity or a spring to engage in the opening in the link.

SEE OR SEARCH THIS CLASS, SUBCLASS:
87, and 190.

100 Wherein devices of the class indicated a hook or knuckle on one coupler is adapted for engagement with a similar hook or knuckle on a mating coupler.

101 Wherein a device of the class indicated the hook or knuckle is formed as an arrowhead.

102 Where a plurality of arrowheads are used in each coupler.

103 Where the hook or knuckle is formed with a transversly-sliding bill.

104 When the hook or knuckle is pivoted to swing in a horizontal plane.

105 A type of coupler known when used by the railroads of this country as the Miller hook and consisting of a drawbar pivoted to swing in a horizontal plane and provided with a hooking bill at its outer end.

106 Where the bill of the hook in this type of coupler is also movable.

107 Where the knuckle is in the form of a rotatable star wheel, any one of the branches of the wheel adapted to be engaged in the coupled position.

108 Wherein devices of the class indicated each coupling is formed of a plurality of horizontally swinging hooks or knuckles.

109 A type of coupler now used on the railroads of this country and known as the Janney type, which consists essentially of a coupling head having a guard arm on one side and an angular knuckle pivoted to the other side thereof, one of the legs of the knuckle being the coupling part and the other the knuckle tail, and means to lock the knuckle in coupling position. This means usually engages the knuckle tail. More highly developed couplers of this type have additional features, as is indicated by some of the subclasses indented hereunder.

110 Wherein devices of the class indicated the coupler when disconnected from a companion coupler can be automatically coupled without manipulation or change in position of parts at the hands of a trainman.

111 Wherein devices of the class indicated modification of structure or additional devices function to adapt the coupler for auxiliary or emergency coupler purposes.

112 Wherein devices of the class indicated the modification of structure or the use of the additional device are to adapt the coupler to couple with other used types of couplers. The purpose is to adapt the Janney type for use on railroads equipped with other types during the transition period from the type used to the Janney type.

113 Wherein devices of the class indicated the knuckle is provided with a plurality of tails.

114 Where other means than a pin is employed to pivot the knuckle to the head.

115 Wherein devices of the class indicated means are employed to throw the knuckle to its open position after the lock for the knuckle is released.

116 Where a spring performs this function.

117 Where the force of gravity is employed to perform this function.

118 Where a downward movement of the knuckle operates to swing it on its pivot to an open position.

119 Where the knuckle-opening device is formed as a part of or secured to the lock and the knuckle opening operation follows a preliminary movement to unlock the knuckle.

120 Wherein devices of the class indicated the lock is both vertically movable and horizontally rotatable, the latter movement opening the knuckle.

121 Wherein devices of the class indicated the lock is both vertically movable and tilting, the latter movement opening the knuckle.

122 Wherein devices of the class indicated the lock has vertical movement only, the latter part of the vertical movement opening the knuckle.

123 Where the opening operation is effected by a member pivoted to the knuckle.

124 Wherein devices of the class indicated the lock is pivoted or rotatable, the latter part of this movement opening the knuckle.

125 Wherein devices of the class indicated the coupler is provided with means for opening the knuckle which is operated by movement of the lock after a preliminary movement thereof to unlock the knuckle.

126 Where the lock is vertically sliding only and in the latter part of its vertical movement engages means to open the knuckle.

127 Where the lock is vertically sliding and rearwardly swinging and in the latter movement engages means to open the knuckle. This type is the basis of the coupler which is standard on the railroads of this country.

128 Wherein devices of the class indicated the lock in the latter part of its vertical movement engages a vertically-swinging lever to open the knuckle.

129 Wherein devices of the class indicated the lock is vertically swinging only and in the latter part of this movement engages and operates knuckle-opening means.

130 Wherein devices of the class indicated the lock is horizontally sliding only and in the latter part of this movement engages and operates means to open the knuckle.

131 Wherein devices of the class indicated means which is employed for operating the lock to its unlocked position can upon further movement thereof operate to open the knuckle.

132 Wherein devices of the class indicated the movement of the means to open the knuckle is continuing and in the same direction as that by which it operated the lock.

133 Wherein devices of the class indicated the lock operator comprises a horizontally-rotating shaft.

134 Wherein devices of the class indicated the lock operator comprises a pivoted lever or levers.

135 Wherein devices of the class indicated the lock operator is a sliding element.

136 Wherein devices of the class indicated the direction of movement of the sliding element is vertical.

137 Wherein devices of the class indicated the means for operating the lock has a movement in another direction for opening the knuckle.

138 Wherein devices of the class indicated the means rotates for one purpose and slides for the other purpose.

139 Wherein devices of the class indicated the lock moves by gravity to its locking position.

140 Wherein devices of the class indicated the lock is attached to and carried by the knuckle tail.

141 Wherein devices of the class indicated the lock is pivoted to swing in a vertical plane.

142 Wherein devices of the class indicated means is provided for holding the lock temporarily in its unlocking position until the knuckle swings towards open position. This means is called the lock set and there is also provided means to prevent accidental movement of the lock to unlocking position during service of the coupler, this means being called the anti-creep.

143 Wherein devices of the class indicated means is provided for holding the lock temporarily in its unlocking position until the knuckle swings towards open position.

144 Wherein devices of the class indicated means is provided to prevent accidental movement of the lock to unlocking position during service of the coupler.

145 Wherein devices of the class indicated the lock has sliding movement in a vertical direction.

146 Wherein devices of the class indicated means is provided for holding the lock temporarily in its unlocking position until the knuckle swings towards open position. This means is called the lock set and there is also provided means to prevent accidental movement of the lock to unlocking position during service of the coupler, this means being called the anticreep.

147 Wherein devices of the class indicated means is provided for holding the lock temporarily in its unlocking position until the knuckle swings towards open position.

148 Wherein devices of the class indicated means is provided to prevent accidental movement of the lock to unlocking position during service of the coupler.

149 Wherein devices of the class indicated the lock has sliding movement in a horizontal direction.

150 Wherein devices of the class indicated the lock is pivoted to swing in a horizontal plane.

151 Patents relating to the contour of the coupler.

152 Patents showing interengaging means on the knuckle and coupler head, usually to relieve the knuckle pin from strain.

153 Wherein devices of the class indicated means are employed to prevent disengagement of the coupler due to excessive vertical movement.

154 Patents relating to the construction of the guard arm of the coupler.

155 Patents relating to the knuckle and the knuckle pin.

156 Wherein devices of the class indicated means positioned below the pin are employed to hold the knuckle pin as a whole or in part, if accidentally broken, against downward movement.

157 Wherein devices of the class indicated the ears are removable. The ears are that part of the coupler head to which the knuckle is pivoted.

158 Patents showing closures for the opening in the top of a coupler head through which passes a lifter for the lock or the lock itself. These closures are generally used when bottom operating means are used for the lock.

159 Wherein devices of the class indicated auxiliary means are employed for moving the lock to permit uncoupling of the coupler.

160 Automatic devices adapted to function under abnormal conditions--viz., when the car leaves the track or when the draft gear breaks.

161 Where the uncoupling device has a plurality of possible movements, any one of which may be selected by a trainman.

162 Where the uncoupling device is operated by pull upon a rod, chain or rope.

163 Where the uncoupling device comprises a plurality of interengaging levers.

164 Wherein devices of the class indicated at least one of the levers is fulcrumed to swing in a vertical plane.

165 Where the uncoupling device has a single lever pivoted to swing in a vertical plane.

166 Where the uncoupling device comprises a horizontal rotating shaft.

167 Wherein devices of the class indicated the inner end of the shaft is journaled to the coupler head.

168 Wherein devices of the class indicated the shaft is directly connected to the lock.

169 Wherein devices of the class indicated a horizontally-extending link connects the shaft to the lock.

170 Wherein devices of the class indicated a single substantially vertically extending link connects the shaft to the lock.

171 Brackets adapted to secure the uncoupling devices to the car.

172 Wherein devices of the class indicated the hook or knuckle is pivoted to swing in a vertical plane.

173 Wherein devices of the class indicated the hook or knuckle is vertically disposed.

174 Wherein devices of the class indicated the hook or knuckle is adapted for rotation about its vertical axis.

175 This subclass is indented under subclass 77. Wherein devices of the class indicated coupling is effected by a hooked member engaging a catch and which would not be classified in ... of this class or any indented subclass.

SEE OR SEARCH THIS CLASS, SUBCLASS:
79, and 88.

176 This subclass is indented under subclass 77. Wherein devices of the class indicated coupling is effected by a beveled link being engaged and held by a swinging catch, and which would not be classified in ... of this class or any indented subclass.

SEE OR SEARCH THIS CLASS, SUBCLASS:
80, and 91.

177 Where an end of each link is fashioned like an arrowhead.

SEE OR SEARCH THIS CLASS, SUBCLASS:
81, and 92.

178 This subclass is indented under subclass 77. Wherein devices of the class indicated coupling is effected by a hook engaging an opening in a link, and which would not be classified in ... of this class or any indented subclass.

SEE OR SEARCH THIS CLASS, SUBCLASS:
82, and 93.

179 Wherein devices of the class indicated the hooks are pivoted.

180 Wherein devices of the class indicated there are provided a plurality of hooks.

181 Wherein devices of the class indicated the link is in the form of a bail.

SEE OR SEARCH THIS CLASS, SUBCLASS:
83, and 94.

182 This subclass is indented under subclass 77. Wherein devices of the class indicated coupling is effected by a headed link engaging in a shouldered slot, and which would not be classified in ... of this class or any indented subclass.

SEE OR SEARCH THIS CLASS, SUBCLASS:
85, and 96.

183 Wherein devices of the class indicated the head of the link moves on a pivot.

SEE OR SEARCH THIS CLASS, SUBCLASS:
85, and 96.

184 Where a head on the link or the link itself is adapted for rotative movement to engage or disengage from the shouldered slot.

SEE OR SEARCH THIS CLASS, SUBCLASS:
97,

185 This subclass is indented under subclass 77. Wherein devices of the class indicated the link is formed with a beveled end which is engaged by a sliding catch, and which would not be classified in ... of this class.

186 This subclass is indented under subclass 77. Wherein devices of the class indicated the link is formed as an arrowhead, at its engaging end, and which would not be classified in ... of this class.

187 This subclass is indented under subclass 77. Wherein devices of the class indicated coupling is effected by a beveled link engaging a fixed catch, and which would not be classified in ... of this class.

188 This subclass is indented under subclass 77. Wherein devices of the class indicated coupling is effected by a pin passing through an opening in an open link, and which would not be classified in ... of the class or any indented subclass.

SEE OR SEARCH THIS CLASS, SUBCLASS:
86, and 98.

189 Wherein devices of the class indicated means are employed to automatically move the pin to a position to permit the link to enter the coupler, the pin then being permitted to move to a position to lock the link, or with the pin in an uncoupling position is positively moved by the entering link to its coupling position.

190 Wherein devices of the class indicated the pin is pivotally supported to be swung rearwardly by an entering link and to be moved by gravity or a spring to engage in the opening in the link, or with the pin in an uncoupling position is positively moved by the entering link to its coupling position.

SEE OR SEARCH THIS CLASS, SUBCLASS:
87, and 99.

191 Wherein devices of the class indicated the pin is swung by the entering link to the coupling position.

192 Wherein devices of the class indicated means are employed to hold the pin in a position to permit the link to enter the coupler, there being a subsequent release to permit the pin to move to a position to lock the link.

193 Wherein devices of the class indicated the pin is tilted to engage a part of the coupler.

194 Wherein devices of the class indicated the action of gravity moves the support to a pin-engaging position when the pin is manually raised.

195 Wherein devices of the class indicated the support also acts as means for holding the link in a horizontally extending position.

196 Wherein devices of the class indicated the supporting means is in the form of a roller.

197 Wherein devices of the class indicated the supporting member is in the form of a pivoted latch.

198 Wherein devices of the class indicated the latch is attached to the pin.

199 Wherein devices of the class indicated the latch is in the form of a stirrup.

200 Wherein devices of the class indicated the supporting member is a spring or a spring operated member.

201 Wherein devices of the class indicated the support also acts as means for holding the link in a horizontally-extending position.

202 Wherein devices of the class indicated the support is horizontally sliding.

203 Wherein devices of the class indicated the supporting member is moved from its supporting position by the entering link.

204 Wherein devices of the class indicated the supporting member is pivoted.

205 Wherein devices of the class indicated means are provided for holding or lifting the link in a horizontal position to enter an engaging coupler.

206 Wherein devices of the class indicated a lifting means on one car engages a link on an opposed car to guide it to coupled position.

207 Wherein devices of the class indicated the holding or lifting means is a lever.

208 That element of a coupler of the type indicated known as the link.

209 Where the link is provided with means permitting its opening at the end.

210 Where the link is provided with a handle.

211 Wherein devices of the class indicated auxiliary means are employed for moving the lock means to permit uncoupling of the couplers.

212 Wherein devices of the class indicated control of the uncoupling means is located at a central station (usually the cab of the engine), permitting uncoupling selectively at any point in the train.

213 Wherein devices of the class indicated the uncoupling means can be operated from either the top or side of the car.

214 Wherein devices of the class indicated the uncoupling means comprises a rotating vertical shaft.

215 Wherein devices of the class indicated the uncoupling means is operable from the car top only.

216 Wherein devices of the class indicated the coupling means comprises a rotating vertical shaft.

217 Wherein devices of the class indicated the means for operating the uncoupling means comprises a flexible element.

218 Wherein devices of the class indicated the uncoupling means comprises a vertically-swinging lever.

219 Wherein devices of the class indicated the uncoupling means comprises a rotating horizontal shaft.

220 Means secured to the end of the car and adapted to engage similar means on another car to receive the force of impact therebetween.

SEE OR SEARCH CLASS:

267, Spring Devices, subclass 115, for a fluid spring draft gear cushioning device, positionable between bodies in tow relation; and subclass 138, for a draft-gear-cushioning spring device, other than the fluid spring type.

221 Wherein devices of the class indicated the buffer is resiliently supported.

222 Wherein devices of the class indicated the construction of the buffer adapts it for use as a whole or part of the car platform.

223 Wherein devices of the class indicated the buffer is supported by a fluid cushion.

224 Means whereby a motive power on one track can be used to move a car or cars located on a parallel track.

END